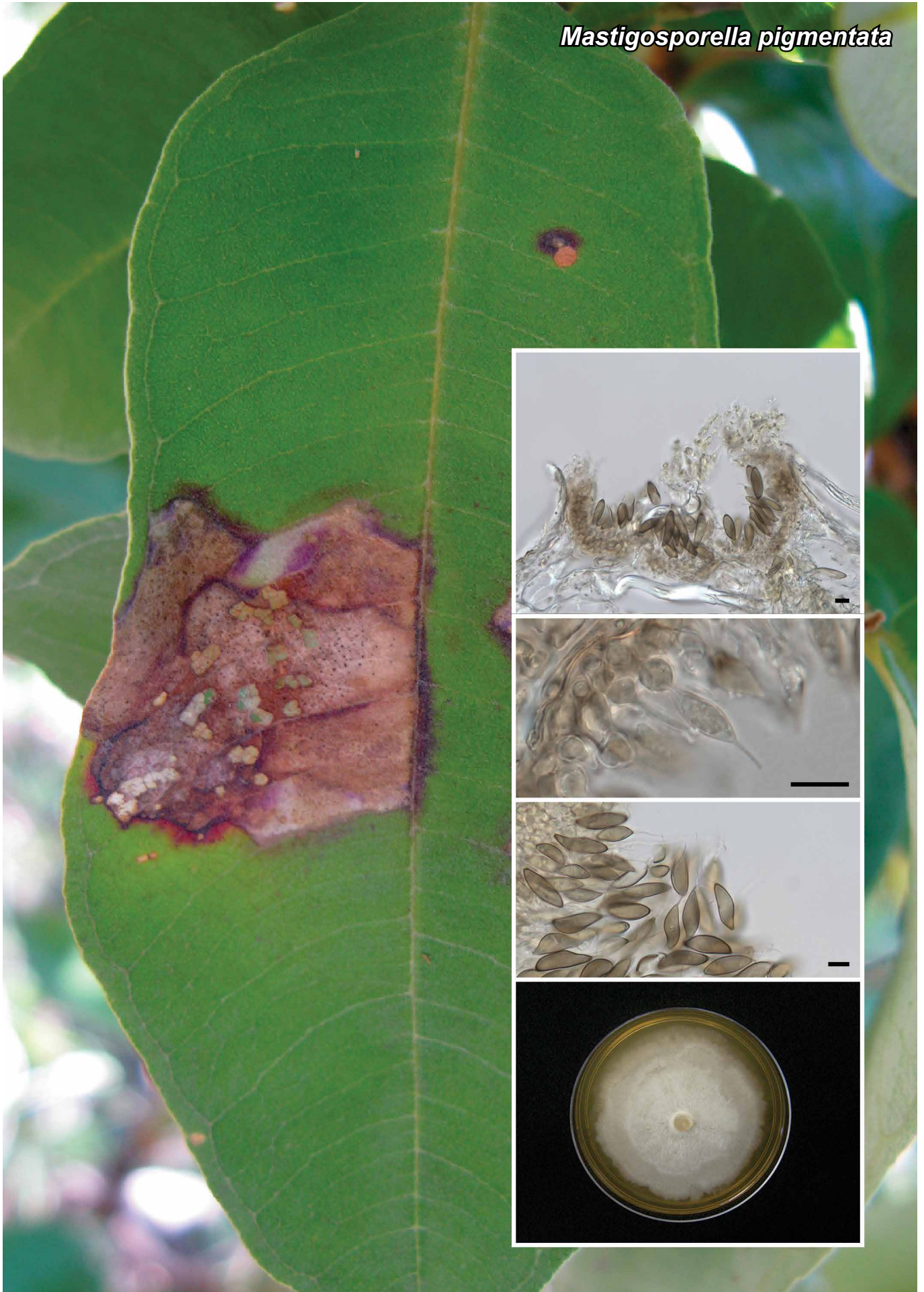


Mastigosporella pigmentata

Fungal Planet 740 – 13 July 2018

***Mastigosporella pigmentata* V.P. Abreu & O.L. Pereira, sp. nov.**

Etymology. Refers to the pigmented conidia of the species.

Classification — *Harknessiaceae*, *Diaporthales*, *Sordariomycetes*.

Conidiomata immersed, pycnidial, up to 160 µm diam, pale brown on host tissue; wall of 4–6 layers of pale brown to brown *textura globulosa* to *subglobosa*. *Conidiophores* reduced to conidiogenous cells. *Conidiogenous cells* pale brown, smooth, ampulliform or doliform, 4.5–9 × 4–7 µm. *Conidia* solitary, aseptate, ellipsoid to fusiform, unicellular, pale brown, sometimes slightly darker at the ends, smooth, thick-walled, developing a solitary apical appendage (cellular, type A1 *sensu* Nag Raj 1993), which is part of the conidial body, developing while still attached to the conidiogenous cell, attenuating into an acutely rounded tip; conidium body 21–33 × 6.5–9.5 µm (excluding appendage); basal hilum truncate, 1.5–2 µm diam, apical appendage developing as continuation of conidium body, containing cytoplasm, 11–28 µm.

Culture characteristics — Colonies on malt extract agar 63 mm diam after 5 d at 25 °C with a photoperiod of 12 h, margins irregular, white aerial mycelium, colonies fertile.

Typus. BRAZIL, Minas Gerais, Paraopeba, Floresta Nacional de Paraopeba (FLONA-Paraopeba), on leaves of *Qualea parviflora* (*Vochysiaceae*), 31 Jan. 2016, V. P. Abreu & O.L. Pereira (holotype VIC 44383, culture ex-type COAD 2370; ITS, LSU and *tef1* sequences GenBank MG587929, MG587928 and MH020056, MycoBank MB823670).

Notes — Species of the coelomycete genus *Mastigosporella* are characterised by yellowish brown to dark brown pycnidial conidiomata and hyaline conidiogenous cells with enteroblastic-percurrent proliferation to produce additional narrowly ellipsoid to fusiform conidia bearing an appendage of type A1 (appendage initially arising as a tubular extension of the conidium body) (Nag Raj 1993). Presently, the genus *Mastigosporella* is known from three species, *M. hyalina*, *M. anisophylleae* and *M. georgiana* (Nag Raj 1993, Crous et al. 2013, Rossman et al. 2015, Senanayake et al. 2017). Only one species of *Mastigo-*

sporella (*M. anisophylleae*) is known from culture and DNA sequence data (Crous et al. 2013, Senanayake et al. 2017). *Mastigosporella pigmentata* clearly differs from *M. hyalina*, *M. anisophylleae* and *M. georgiana* by having pale brown conidia and conidiogenous cells. *Mastigosporella pigmentata* presents larger and wider conidia than *M. hyalina* and *M. georgiana*. *Mastigosporella pigmentata* has conidia similar in length to *M. anisophylleae*, but distinguishable from it by being wider. In addition, the conidia of *M. pigmentata* presents apical appendages longer than *M. anisophylleae* and *M. hyalina*. Members of this genus were reported from the USA and Zambia on leaves of *Quercus coccinea*; on leaves and petioles of *Nyssa biflora* and *Nyssa sylvatica* and on *Anisophyllea* sp. (Nag Raj 1993, Crous et al. 2013, Senanayake et al. 2017). To our knowledge this is the first report of the occurrence of the genus *Mastigosporella* in Brazil. Phylogenetic analysis and morphological comparisons support the introduction of *M. pigmentata* as a new species within this genus.

ITS. Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits using the ITS sequence are *Mastigosporella anisophylleae* (GenBank NR_137844; Identities = 508/568 (89 %), 16 gaps (2 %)), *Harknessia communis* (GenBank KY979780; Identities = 517/580 (89 %), 23 gaps (3 %)) and *Harknessia eucalyptorum* (GenBank AY720747; Identities = 501/564 (89 %), 23 gaps (4 %)).

LSU. Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits using the LSU sequence are *Harknessia lythri* (GenBank AF408364; Identities = 809/815 (99 %), no gaps), *Cryphonectria decipiens* (GenBank JQ862750; Identities = 807/815 (99 %), no gaps) and *Latruncellus aurorae* (GenBank NG_042572; Identities = 807/815 (99 %), no gaps).

tef1. On a megablast search of NCBI's GenBank nucleotide database, no significant hits were obtained.

Morphological characteristics (in µm) of *Mastigosporella* spp.

| Species | Conidia | Conidiogenous cells | Apical appendage | References |
|--|-----------------------------------|---------------------|------------------|---------------------------------------|
| <i>Mastigosporella anisophylleae</i> | (21–)27–30(–32) × (4.5–)5–5.5(–6) | 5–12 × 3–5 | (5–)6–7(–8) | Crous et al. (2013) |
| <i>Mastigosporella georgiana</i> | 16–25 × 5–7 | 5–10 × 2.5–6 | 12–26 × 1 | Nag Raj (1993), Rossman et al. (2015) |
| <i>Mastigosporella hyalina</i> | 18–28 × 3.5–5 | 7–11 × 3–4(–5) | 5–10(–12) | Nag Raj (1993) |
| <i>Mastigosporella pigmentata</i> | 21–33 × 6.5–9.5 | 4.5–9 × 4–7 | 11–28 | This study |

Colour illustrations. Leaf spot symptoms on *Qualea parviflora* (*Vochysiaceae*) in Floresta Nacional de Paraopeba, state of Minas Gerais, Brazil; vertical section of conidiomata; conidiogenous cell with developing pigmented conidia; mature pale brown conidia with apical appendages; colony on MEA after 5 d at 25 °C. Scale bars = 10 µm.

Vanessa P. Abreu, Departamento de Microbiologia, Universidade Federal de Viçosa, 36570-900, Viçosa, Minas Gerais, Brazil;
e-mail: vanessa.abreu@ufv.br
Olinto L. Pereira, Departamento de Fitopatologia, Universidade Federal de Viçosa, 36570-900, Viçosa, Minas Gerais, Brazil;
e-mail: oliparini@ufv.br